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# Steering Wheel Returnability Software Design Using LabVIEW 7.0

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## Using LabVIEW 7.0

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## ABSTRACT

The design of a Returnability program using LabVIEW 7.0 for International Truck & Engine, (ITE) is the basis of this senior design project. This project is going to focus on the need for test engineers to measure the effectiveness of the steering wheel's ability to return to the center when a driver has turned the wheel in either direction and then released. This report discusses the problem analysis, research methods, and characteristics of what the software design analyzes.

Currently, ITE does not have enough staff to create a returnability program so they are using an alternative method to test their vehicles. That is why this senior design project provides a better method of acquiring data using a real-time data acquisition system configuration.

The Society of Automotive Engineers' (SAE) database has shown that many semi-truck manufacturers are not too concerned with steering wheel returnability. The Institute of Electrical and Electronics Engineers' (IEEE) database had no information relating to this topic. The most informative source from SAE's database was from Mitsubishi Electric Corporation. However, their method of controlling returnability, Electrical Power Steering (EPS), is more expensive than the current author's method.

This senior design project concludes that the completed program speeds up the process of testing steering wheels for returnability. This senior design project recommends that ITE continue to use this program and edit some parts of it for future data acquisition systems.



Keywords: returnability, steering wheel, SAE, EPS, data acquisition system, steering mechanism, turns, semi-truck.

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